AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims:

1. (Currently amended): A device for diagnostic NO measurements, the device comprising:

~~an electrochemical NO sensor;~~

- ~~an inlet/outlet~~ a combined inlet and outlet configured to provide NO-scrubbed inhalation air to a patient and to accept an exhalation air at an exhalation flow rate;

- a NO scrubber connected to the combined inlet and outlet along an inhalation flow path, the NO scrubber ~~inlet/outlet and~~ configured to provide NO-scrubbed air to the combined inlet and outlet ~~inlet/outlet~~;

- a buffer chamber connected to the combined inlet and outlet along an exhalation flow path, the buffer chamber configured to ~~for~~ temporarily ~~storing~~ hold a sample of the exhalation air for a period of time;

- a flow regulator positioned between the combined inlet and outlet ~~inlet/outlet~~ and the buffer chamber; ~~and~~

- an electrochemical NO sensor connected to the buffer chamber, the electrochemical sensor configured to receive the sample of exhalation air temporarily held by the buffer chamber; and

- means for feeding the temporarily held sample of the exhalation air from the buffer chamber to the electrochemical NO sensor at a suitable flow rate for the electrochemical NO sensor, wherein the suitable flow rate for the electrochemical NO sensor is lower than the exhalation flow rate.

2. (Currently amended): The device according to claim 1, ~~and~~ wherein the flow regulator is configured to control the flow rate of the exhalation air to the buffer chamber at a rate of 20-800 ml/s.

3. (Previously presented): The device according to claim 1, wherein the suitable flow rate for the electrochemical NO sensor is about 0.5 to 15 ml/s.

4. (Previously presented): The device according to claim 1, wherein the device comprises means for equalizing the humidity of the sample.

5. (Previously presented): The device according to claim 4, wherein said means for equalizing the humidity of the sample comprises a length of tube, made from a catalytic membrane material.

6. (Previously presented): The device according to claim 1, wherein the device further comprises control electronics for verifying the parameters of the inhalation and controlling the parameters of exhalation.

7. (Previously presented): The device according to claim 6, wherein said control electronics comprise a pressure sensor and means for giving feedback to the patient.

8. (Previously presented): The device according to claim 6, wherein said control electronics further comprise a flow sensor and means for controlling the flow and/or giving feedback to the patient.

9. (Previously presented): The device according to claim 6, wherein said control electronics further comprise a pressure sensor capable of measuring absolute pressure in order to make it possible to compensate for varying partial pressure of NO depending on variations in ambient pressure.

10. (Cancelled)

11. (Previously presented): The device according to claim 1, wherein the buffer chamber comprises a cylinder with a movable piston.

12. (Previously presented): The device according to claim 1, wherein the buffer chamber comprises a length of tube.

13. (Cancelled)

14-18 (Cancelled)

19. (Currently amended): A method for diagnostic NO measurements, the method comprising the steps of:

a patient inhales through an inhalation flow path of a device comprising an electrochemical NO sensor, a NO scrubber, and a buffer chamber,

said patient exhales air into an exhalation flow path of said device, wherein an exhalation flow rate and pressure is controlled to a preset value,

a sample of the exhaled air from said patient is temporarily ~~stored~~ held for a period of time in said buffer chamber,

said sample is fed to said electrochemical NO sensor at a flow rate lower than the exhalation flow rate, and

an NO concentration is determined in said sample.

20. (Original): A method according to claim 19, wherein the patient inhales NO-free air prior to exhaling into the device.

21. (Previously presented): A method according to claim 19, wherein the patient inhales through the NO-scrubber integrated in said device, supplying NO-free air to the patient, prior to exhaling into the device.

22. (Original): A method according to claim 19, wherein the patient is given audible or visual feedback during the inhalation and exhalation steps, in order to support the correct performance of said steps.

23. (Previously presented): A method according to claim 19, wherein the exhalation flow rate is controlled to a value of about 20 to 800 ml/s and the rate at which the sample is fed to the sensor is about 0.5 to 15 ml/s.

24. (Cancelled)

25. (Cancelled).

26. (Previously presented): A method according to claim 19, wherein the device comprising an electrochemical NO sensor further comprises a user interface, wherein at least one of the following steps is included:

the patient enters information relating to his/her intake of a medicament into the user interface; and

the patient subjectively assesses his/her state of health and enters corresponding information into the user interface.

27. (Previously presented): A computer program comprising instructions for performing the method according to claim 19, wherein the instructions are stored in a computer-readable medium.

28. (Cancelled).

29. (Previously presented): A method for diagnostic determination of NO in a gas sample, the method comprising the steps of:

introducing a sample at a first flow rate into the device of claim 1;

storing said sample in the buffer chamber temporarily;

feeding said sample to the electrochemical NO sensor at a second flow rate; wherein the first flow rate is higher than the second flow rate.

30. (Previously presented): The device according to claim 2, wherein the flow regulator is configured control the flow rate of the exhalation air to the buffer chamber at a rate of 45-55 ml/s.

31. (Currently amended): A method for determining NO in a gas sample, the method comprising:

- receiving a gas sample comprising NO at a first flow rate;
- ~~storing~~ holding said sample temporarily in a buffer chamber for a period of time ~~temporarily~~; and
- feeding said held sample to an electrochemical NO sensor at a second flow rate,

wherein the first flow rate is higher than the second flow rate.

32. (Currently amended): The device of claim 1, further comprising an ambient air inlet connected to the NO scrubber, wherein the ambient air inlet and the ~~inlet/outlet~~ combined inlet and outlet are separate structures.

33. (Cancelled)

34. (Previously presented): The device of claim 32, wherein the NO scrubber is configured to supply the electrochemical sensor with ambient air that has been scrubbed of NO.

35. (Previously presented): The device of claim 32, further comprising a means, positioned between the NO scrubber and the electrochemical sensor, for feeding a sample of ambient air from the NO scrubber to the electrochemical sensor.